

REMARKS

This amendment responds to the Office Action dated May 14, 2003 in which the Examiner stated that claims 1, 2, 4-7, 35 and 54-59 are allowed, objected to claims 67-69 and 71-73 as being dependent upon a rejected base claim but would be allowable if rewritten in independent form, and rejected claims 36-53, 62-66 and 70 under 35 U.S.C. § 103, and rejected claims 60 and 61 under 35 U.S.C. § 102(b).

As indicated above, claims 36-53 have been canceled without prejudice.

Claim 60 claims a thermoplastic resin injection molding machine comprising a plasticating unit, an injecting unit and a buffering unit. The plasticating unit is for plasticating a thermoplastic resin. The injecting unit is connected to the plasticating unit through a connecting passage to inject the plasticated resin into a mold. The buffering unit has a buffering chamber and receives the resin plasticated in the plasticating unit. The buffering unit is contained in the plasticating unit and is located in a longitudinal direction of the plasticating unit.

Through the structure of the claimed invention having a buffering unit having a buffering chamber contained in the plasticating unit and located in a longitudinal direction of the plasticating unit, as claimed in claim 60, the claimed invention provides a thermoplastic resin injection molding machine which can be reduced in size since the buffering unit is integrated with the plasticating unit. The prior art does not show, teach or suggest the invention as claimed in claim 60.

Claims 60-61 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Baigent* (U.S. Patent No. 3,080,610).

Applicants respectfully traverse the Examiner's rejection of the claims under 35 U.S.C. § 102(b). The claims have been reviewed in light of the Office Action, and for reasons which will be set forth below, it is respectfully requested that the Examiner withdraws the rejection to the claims and allows the claims to issue.

Baigent appears to disclose a machine in which the thermoplastic material, instead of being injected direct from the preplasticising injection chamber into the mould is injected from said preplasticising chamber into the transfer injection chamber from which the material is then injected into the mould. (col. 1, lines 65-71) The transfer unit proper comprises a transfer cylinder or chamber 10 surrounded over the major portion of its length by heating elements 11 for keeping the thermoplastic material at the desired degree of plasticity prior to being injected into the mould. At the upper end the transfer chamber or cylinder is provided with an injection opening or orifice 10a adapted to register in sealing engagement with the inlet orifice 22 of a mould 23. Near the lower end of the transfer chamber or cylinder is a lateral inlet orifice 12 through which the thermoplastic material is injected into said transfer chamber 10 from the preplasticising chamber 3 of the preplasticising unit. The inlet orifice 12 of the transfer chamber or cylinder 10 is connected with the injection nozzle 3a of the preplasticising chamber 3 by an intermediate extension conduit 13 which is surrounded throughout its length by suitable heating elements 14. This intermediate extension conduit 13 is connected with the nozzle 3a of the preplasticising chamber and with the inlet orifice 12 of the transfer chamber or cylinder 10 by ball and socket type connections, that is said conduit 13 is provided at its ends with spherical portions which register with corresponding spherical seatings in the wall of the transfer

chamber or cylinder 10 and the injection nozzle 3a. By this means any relative vertical displacement of the transfer unit and the preplasticising unit will not result in damage or fracture of the extension conduit 13 or affect its function and will prevent any stresses from being transferred to the preplasticising unit or the transfer unit. (col. 2, lines 42-71, emphasis added) Hydraulic pressure from pump P2 is then directed through ports P and A of valve V3 and ports P and B of valve V4 to hydraulic motor HM, which operates to start the refill period of the plasticising chamber and when the plasticating chamber is fully recharged the rearward movement of the plunger screw 5 operates limit switch LS2 to de-energize solenoid B of valve V4. Pump P2 then delivers to tank through ports P and T of valve V4. (col. 3, line 71 through col. 4, line 3) The plasticating screws 5 are thus moved forward to start the injection of the contents of the preplasticising chamber 3 into cavity 10 of the transfer cylinder. When this injection is completed the timer T3 ends its timed period so that its normally closed contacts open to de-energise solenoid A of valve V4 and pump P2 delivers to tank. (col. 4, lines 30-36)

Thus, *Baigent* discloses a heating element 14 (col. 2, line 58) which surrounds an intermediate extension conduit 13 connected between a nozzle 3a of a preplasticising chamber 3 and an inlet orifice 12 of a transfer chamber 10 (col. 2, lines 58-61). That is, reference numeral 13 is not shown in Figure 1 of *Baigent*. Thus, nothing in *Baigent* shows, teaches or suggests a buffering unit contained in a plasticating unit as claimed in claim 60. Rather, *Baigent* clearly discloses that the conduit 13 is connected between the nozzle 3a of the preplasticising unit chamber 3 and the inlet orifice 12 of the transfer chamber 10.

Furthermore, Applicants respectfully point out to the Examiner that the chamber 3 in *Baigent* is described as a preplasticising chamber. Applicants furthermore respectfully submit that the plasticating unit in *Baigent* is everything shown in Figure 1 with the exception of the preplasticising chamber 3. Therefore, Applicants respectfully submit that the buffering unit of *Baigent* is located in a direction perpendicular to the plasticating unit (remainder of Figure 1). Therefore, nothing in *Baigent* shows, teaches or suggests a buffering unit located in a longitudinal direction of the plasticating unit as claimed in claim 60. Rather, *Baigent* teaches away from the claimed invention since the preplasticising chamber 3 is located perpendicular to the plasticating unit of *Baigent*.

Since nothing in *Baigent* shows, teaches or suggests a buffering unit contained in a plasticating unit and located in a longitudinal direction of the plasticating unit as claimed in claim 60, it is respectfully requested that the Examiner withdraws the rejection to claim 60 under 35 U.S.C. § 102(b).

Claim 61 depends from claim 60 and recites additional features. It is respectfully submitted that claim 61 would not have been anticipated by *Baigent* within the meaning of 35 U.S.C. § 102(b) at least for the reasons as set forth above. Therefore, it is respectfully requested that the Examiner withdraws the rejection to claim 61 under 35 U.S.C. § 102(b).

Claims 62-63, 65 and 70 were rejected under 35 U.S.C. § 103 as being unpatentable over *Baigent* in view of *Yabushita* (U.S. Patent No. 5,389,315). In addition, claims 64 and 66 were rejected under 35 U.S.C. § 103 as being unpatentable over *Baigent* and *Yabushita* and further in view of *Cheng* (U.S. Patent No. 5,098,267).

Applicants respectfully traverse the Examiner's rejection of the claims under 35 U.S.C. § 103. The claims have been reviewed in light of the Office Action, and for reasons which will be set forth below, it is respectfully requested that the Examiner withdraws the rejection to the claims and allows the claims to issue.

As discussed above, since nothing in *Baigent* shows, teaches or suggests the primary feature as claimed in claim 60, it is respectfully submitted that the combination of *Baigent* with the secondary references will not overcome the deficiency of the primary reference. Therefore, Applicants respectfully request that the Examiner withdraws the rejection to claims 62-66 and 70 under 35 U.S.C. § 103.

Thus it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason Examiner feels that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge Deposit
Account No. 02-4800.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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By: 

Ellen Marcie Emas
Registration No. 32,131

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620